more potential providers to enter the market. Allowing more competitors should enhance product and service innovation, thereby increasing the diversity of services provided. This is critical in the developmental stages of PCS. With the establishment of a common air interface by the PCS industry, PCS customers will be able to use their handsets at any location in which PCS is available, regardless of the particular PCS provider. This will further the Commission's objective to promote universality.

The use of MSAs and RSAs for initial licensing will speed deployment of new PCS services, as the construction required to build the system will be less costly and will take less time to complete. Smaller serving areas may also bring PCS more quickly to less affluent and less populated areas.[21] A licensee who is permitted to provide service in a larger area will more than likely concentrate, initially, on the more profitable areas within the serving area. The use of smaller serving areas will help ensure that service will be available to all customers located in a particular serving area. It also may encourage the development of services more directly tailored to meet the needs of a particular community.

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[21] Written Statement of Herbert P. Wilkins, Sr. Before the Federal Communications Commission En Banc Hearing on Personal Communications Service, December 5, 1991 at p. 4.

The adoption of larger serving areas, particularly a nationwide license, would not meet the Commission's objectives. Larger areas will permit licensees to target only the most lucrative markets in their serving area, will yield fewer providers and will require larger systems which are more costly and will take longer to build. A nationwide licensee would certainly have a reduced incentive to participate in any standards-setting process in order to establish a common air interface for PCS.

The use of cellular serving areas has several advantages. Distinguishing metropolitan and rural serving areas will permit the Commission to ensure that PCS will be provided to customers located in both areas. Many potential providers are familiar with the cellular model, which is also used for Interactive Video and Data Service. Regulators are also familiar with and understand the MSA/RSA model. Perhaps more importantly, the financial community is familiar with the cellular licensing areas and has experience in appraising their value. While the cellular licensing process proved to be difficult, this was not due to the configuration of the serving areas, but rather to the licensing mechanism. With an objective comparative hearing or an improved lottery process, the Commission will find that the use of cellular serving areas for PCS will best serve the public interest. The Commission should not complicate the establishment of PCS by creating new, untested licensing areas.

USTA urges the Commission to take advantage of the opportunity to utilize smaller coverage areas for PCS. If the PCS market ultimately determines that larger serving areas are necessary to serve the public, consolidation will occur. However, if larger serving areas are adopted and then found to be inappropriate for low-power microcell systems, it will be difficult and more costly to subdivide established large serving areas into smaller ones. The Commission need not prejudge the market for new PCS services. Smaller serving areas will allow flexibility as the PCS market develops.

B. The Commission Should Ensure that PCS is Available in Non-Metropolitan Areas by Reserving Spectrum for Exchange Carriers to Provide PCS in a RSA.

As noted above, USTA supports the Commission's goal to encourage the development of PCS as a competitive service offering. USTA's proposed frequency allocation plan to authorize five PCS licenses of 20 MHz in each market area, as will be explained below, furthers that goal. USTA's proposal should assure vibrant competition within each market, while allowing sufficient spectrum for each licensee to offer quality services. Panelists at the Commission's en banc hearing spoke of the great demand for PCS services.[22] However, the great majority of market trials, to date, are concentrated in urban areas and the

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[22] Written statements of Arthur D. Little and John E. DeFeo, En Banc Hearing on Personal Communications Services, before the Federal Communications Commission, December 5, 1991.

expectation is that PCS will develop initially in urban settings. This means that customers outside these areas may not receive PCS for years, if at all, without Commission intervention.

There is a real need for telecommunications infrastructure development in non-metropolitan areas. Such areas should not be permitted to be deficient, as compared to metropolitan areas, in offering new services, such as PCS, to attract industrial development and benefit customers. The National Telecommunications and Information Administration (NTIA) has observed that "[t]he gap between urban areas, with increasingly modern telecommunications and information services, and rural areas, where deployment of these services may not be feasible based upon pure market forces, may grow. Rural areas will then be relatively less able to attract businesses and people, with negative results."[23] NTIA recommends that non-metropolitan areas should benefit to the maximum extent possible from technological and competitive developments. "This may entail, for instance, removing restrictions on the permissible activities of telephone companies serving less well-populated areas and, perhaps, doing so even faster than in more urbanized markets."[24]

In his written statement presented at the en banc hearing,

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[23] National Telecommunications and Information Administration, NTIA Telecom 2000 at p.90 (1988).

[24] Id. at p. 93.

Dr. Charles Jackson, Vice President, National Economic Research Associates, arguing that exchange carriers should not be prevented from offering PCS, stated that the Commission could also consider treating less populated areas differently. "These areas have less concentrated demand for telecommunications services...And, at the same time, rural regions can be expected to have longer loops and greater costs for the older copper technology--so that the benefits of allowing LEC use of radio in local distribution would be greater."[25] It is also apparent that the negative impacts, as described above, which could result from excluding exchange carrier provision of PCS would be greater in non-metropolitan areas. In fact, non-metropolitan markets may not be served unless exchange carriers are allowed to provide these services.

The Commission itself has recognized that exchange carriers serving non-metropolitan areas require special consideration. In the Cellular Lottery Order, the Commission asserted that cellular service will prove to be a cost effective means of providing basic telephone exchange service in remote areas where the cost of providing landline service is high. Therefore, the Commission concluded that telephone companies should not be precluded from using cellular technology to provide basic telephone service. For if they were, the Commission speculated that their landline subscribers could be lost to competing cellular providers, causing loss of revenue and jeopardizing their financial

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[25] Jackson at p. 11.

viability.[26] "Ultimately, this diversion may cause ... companies to lose revenues, and inhibit their ability to provide local exchange landline service at affordable rates so that many individuals may be forced to forego telephone service. In recent proceedings, we have expressed our concern that the continued financial viability of small telephone companies is necessary to ensure our goal of universal service."[27] This rationale can also be applied to exchange carrier provision of PCS.

Therefore, within a RSA, the Commission should reserve one of the five licensed blocks of 20 MHz of spectrum for exchange carriers to provide PCS in their exchange serving area. Each exchange carrier serving the RSA would have access to the 20 MHz block of spectrum. Exchange carriers utilizing this block could be required to establish a PCS offering within a specified amount of time or forfeit access to the reserve, which could then be reassigned by the Commission.

This proposal would not impede the competitive delivery of service, since there would be four other available licenses in the RSA. This proposal would be particularly beneficial to the customers of the smaller exchange carriers providing service in

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[26] Cellular Lottery Order, 98 F.C.C. 2d 175 (1984), modified, 101 F.C.C. 2d 577, further modified, 59 Rad. Reg. 2d (P&F) 407 (1985).

[27] Id. at 195.

non-metropolitan areas. These carriers will not be able to compete fairly in any "aftermarket" to obtain licensed spectrum in their exchange serving area because they would not be able to pay the price a licensee could demand for the license. Smaller exchange carriers serving metropolitan areas will also have great difficulty in competing for a spectrum license to provide PCS and in attempting to obtain spectrum in the "aftermarket".[28] This situation would only be exacerbated by the creation of large license areas, as the price of individual licenses would be increased. The experience of smaller exchange carriers in the cellular lottery also demonstrates that they will not have much opportunity to obtain spectrum if that same mechanism is used to assign PCS licenses. First, the licensing process focused initially on metropolitan areas, thus delaying any opportunity for smaller exchange carriers to apply for a license to serve non-metropolitan areas. Second, these carriers did not have a wireline presence in several cellular markets which they could trade or pool in order to increase their chances in the lottery.

PCS has the potential to revolutionize telecommunications. However, it must also be viewed from the perspective that it is the latest in a long and continuing line of technological advancements that exchange carriers have used to implement new services over the years. At one time, service was provided using

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[28] The Commission should permit these exchange carriers to request spectrum to provide PCS in their serving areas.

bare copper wire strung on fence posts. Over time, technological advancements were made available such as insulated cable, electronic amplifiers, carrier systems, coaxial cable, point-to-point microwave, digital switching, fiber optics, and cellular. If smaller exchange carriers are prevented or inhibited from using the latest technological advancement, many customers are not likely to have the newer services available to them. If this latest technology does become available in non-metropolitan areas and exchange carriers are not allowed to use it, smaller exchange carriers will face an insurmountable disadvantage. If they fail to survive as viable businesses, universal service could be jeopardized and the nation will have lost a valuable source of telecommunications diversity and innovation which smaller exchange carriers have historically provided.

C. A Modified Lottery Can Be Utilized to Award PCS Licenses.

The Commission correctly observes that, realistically, there are only two options for awarding a PCS license: comparative hearings and lotteries. Of the two, comparative hearings are the preferred method to yield the more-qualified applicant. If the Commission establishes technical and financial requirements in such a way as to discourage speculators from applying and employs objective criteria for comparing applicants, comparative hearings may not be as slow and costly to administer as the Commission suggests. However, whether used in a comparative hearing or a lottery, the Commission should require: strict financial and

technical qualifications, definite construction commitments and deadlines, short filing windows and significant, yet fair, filing fees.

For example, legal information should include the names and addresses of the partners or shareholders, and multiple ownership information. Complete technical information should include the frequencies applied for, full information on maximum transmitter power, antenna characteristics, system interference coordination and spectrum sharing plans, clearance with microwave users to other frequency bands, contour coverage maps, environmental impact and Federal Aviation Administration statements. Financial information should include an itemized list of construction and operating expenses and their sources of financing.[29]

If the lottery process is utilized, it must be modified to reduce the costs and delays which have been associated with the use of lotteries in the past. For example, USTA would support the use of a "postcard" type lottery. An applicant could submit a minimal application accompanied by the filing fee. The Commission should allow only one application per entity per serving area. Contingent winners should not be selected. Once

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[29] The Commission has required applicants to show itemized expenses for building 40 percent of their system within the first five years and itemized sources of financing to meet those costs. Amendment of Part 90 to Provide for the Use of the 220-222 MHz Band by Private Land Mobile Radio Services, 6 FCC Rcd 2356, 2363 (1991).

an applicant was selected, the applicant could have a maximum of three business days to submit the detailed legal, financial, and technical requirements and construction commitments as listed above.

Whether a comparative hearing or lottery is used, the Commission should require the applicant to identify the names, addresses and telephone numbers of all persons who assisted in preparing the application, designing the system and forming the partnership, if applicable. The Commission should also impose a penalty for non-performance of any construction commitment. Such measures may assist in reducing the number of speculative applications. Ultimately, however, proper enforcement of radio licensing criteria contained in the Communications Act, which includes complete disclosure of the applicant and its proposed operations, and proper enforcement of securities regulations may be the only way to safeguard the public interest in licensing PCS.

V. SPECTRUM ALLOCATIONS

Consistent with the definition of PCS as a unique technology as stated above, USTA supports the conclusion reached by the Commission in its Policy Statement and Order that an adequate amount of spectrum should be made available for PCS to foster the

development of innovative and competitive markets.[30] As will be explained below, USTA recommends that the Commission initially allocate 140 MHz of the 2 GHz spectrum identified in ET Docket No. 92-9[31] for PCS.

A. Five Licensed Channel Sets of 20 MHz and an Unlicensed Allocation Will Meet the Commission's Goal to Provide the Widest Range of PCS Services at the Lowest Cost to Consumers.

The Commission states that its goal is to provide an allocation that allows for the provision of the widest range of PCS services at the lowest cost to consumers.[32] In order to accomplish that goal, USTA proposes that the Commission provide for five licensed, paired, channel sets of 20 MHz for PCS in each serving area. This will support a wide range of PCS services and allow providers sufficient spectrum to offer viable PCS services. Further, the recommended allocation is such that, in most areas, one licensee will not be able to satisfy the full service needs of the area, thus encouraging the competitive delivery of service and a diversity of services. Each applicant should be eligible for the same amount of spectrum in order to offer competitive PCS services.

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[30] Notice at para. 13.

[31] Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies, First Report and Order and Third Notice of Proposed Rulemaking, ET Docket No. 92-9, released October 16, 1992 at ¶ 21.

[32] Notice at para. 34.

USTA supports the Commission's tentative decision to allocate spectrum for unlicensed PCS. As the Commission notes, this would foster the rapid introduction of new PCS technologies. Licensed providers may be able to utilize this spectrum if they are delayed in providing service due to the presence of an incumbent microwave user. Therefore, USTA proposes that the Commission allocate one unlicensed, paired, channel set of 20 MHz for narrowband PCS applications. USTA further recommends that the Commission attempt to identify additional frequencies that would be suitable for unlicensed narrowband PCS applications. Finally, USTA would also propose an allocation of 20 MHz of unlicensed spectrum exclusively for wideband PCS applications. Providing separate allocations for unlicensed narrowband and broadband applications will reduce potential interference. The wideband unlicensed allocation proposed by USTA would support the channelization plan suggested by the Commission.[33]

Based on the above, USTA's proposed frequency plan for the 2 GHz PCS spectrum is as follows:

- 1850-1900/1930-1980 MHz divided into 5 licensed paired channel sets of 20 MHz.
- 1900-1910/1980-1990 MHz for 1 unlicensed paired channel set of 20 MHz for narrowband applications.
- 1910-1930 MHz for unlicensed wideband applications.

[33] Notice at para. 44.

B. Negotiations With Incumbent 2 GHz Users Need Not Be Delayed Once Channelization Plans Are in Effect.

A negotiated relocation program, as described by the Commission for incumbent 2 GHz users, should be adopted.[34] However, there is no basis for delaying this process. In ET Docket No. 92-9, the Commission is proposing to reallocate bands above 3 GHz to provide alternative frequencies for existing 2 GHz licensees. A channelization plan has been proposed that will allow the design of low capacity systems in higher frequency bands. This will make relocation using alternative radio bands more feasible. Of course, new systems will be less likely to require use of the 2 GHz band. The involuntary negotiation process should be utilized as soon as a microwave channelization plan that allows for relocation is adopted or as soon as it can be shown that comparable alternative media is available.

Once the channelization plan is implemented, applicants for new 2 GHz point-to-point microwave systems should be required to make a good cause showing as to why their system must utilize the 2 GHz band as opposed to the use of a higher frequency band or alternative media.[35] The Commission should specify that relocation must be to a different frequency or to alternative media, not to a different location in the 2 GHz band.

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[34] Notice at para. 47.

[35] The Commission could allow greater latitude to applicants seeking to modify existing 2 GHz systems. See, Public Notice released May 14, 1992, Two Gigahertz Fixed Microwave Licensing Policy, Mimeo No. 23115.

USTA has consistently stated that a new user must compensate the existing user for all costs of relocation.[36] Further, users in the unlicensed channels should pay the costs of relocating any incumbents located in those channels. USTA also agrees that the proposed replacement system must provide equal reliability to the existing system. Finally, while the Commission simply states that existing users have the right to oppose the relocation proposal, USTA would recommend that in such cases the Commission arbitrate the matter using alternative dispute resolution techniques in order to reach a mutually agreeable solution.

VI. REGULATORY ISSUES

A. Non-discriminatory Interconnection of PCS With the Public Switched Telephone Network is in the Public Interest.

As stated above, USTA believes that PCS customers can benefit from the interconnection of PCS with the public switched telephone network. Such interconnection can reduce the cost to provide PCS, can facilitate broad availability, can speed deployment, and can enhance PCS offerings based on existing as well as future intelligent network features. Exchange carriers have experience defining appropriately recoverable interconnecting points in the public switched network for the systems and networks of other providers, even those offering competitive services. The Commission has long required exchange

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[36] This issue will be addressed more fully in ET Docket No. 92-9.

carriers to define appropriate interconnection upon reasonable demand and on terms no less favorable than provided to telephone affiliates.[37]

If exchange carriers are eligible to provide PCS, they will have a greater incentive to participate in the established industry standards-setting bodies to develop standard interconnection arrangements. USTA agrees with the Commission that such arrangements should not be mandated for several reasons. First, as the Commission points out, it is too early to determine what types of interconnection will be required. It is likely that different providers will want to provide different levels of service which will require different arrangements. Second, not all arrangements will be available at all locations due to equipment and deployment limitations. Third, non-standard arrangements may be desirable in some areas and could be made available on a non-discriminatory basis where offered without committing to make them available everywhere.

Interconnection of PCS to the public switched network will enhance the value of PCS to the public. Such interconnection will be made available on a non-discriminatory basis, consistent with existing rules. The Commission should make it clear, however, that any interconnection requirements imposed on exchange carriers would also be imposed on other network

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[37] Reconsideration Order at p. 81.

providers to permit exchange carrier PCS customers to take advantage of the features and capabilities of other networks.

B. All PCS Providers Should Be Subject to the Same Level of Regulation.

The overriding principle in establishing a regulatory framework for PCS should be to regulate all providers in an equivalent manner. Only in this way will the Commission be able to avoid conferring a competitive advantage on certain providers or creating classes of providers and services. PCS is a new family of services. No provider should enjoy any regulatory advantage in developing and deploying PCS offerings. The marketplace should be the ultimate arbiter of who the providers are and the services that they will deploy.

To the extent that PCS is viewed as a substitute for either current cellular or exchange telephone service, USTA believes that PCS should be provided as a common carrier service. In responding to the Commission's follow-up questions after the en banc hearing, Dr. Jackson stated, "... if PCS is a close economic substitute for telephone service, it should be offered on a common carrier basis as is cellular or local wireline service."[38] This would mean, at the very least, that all facilities-based PCS offerings would be considered as common carrier services. This will provide the Commission with the

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[38] Response of Charles L. Jackson to Follow-Up Questions, submitted January 15, 1992 at p. 7.

basis to regulate providers of similar services in the same manner and allow it to meet its goal of encouraging the competitive delivery of PCS.

VII. TECHNICAL STANDARDS

A. Interoperability of PCS Is Important to Customer Enjoyment of PCS.

The development of interoperable PCS systems will be extremely valuable to customers and will be essential in realizing the Commission's objectives. Interoperability will permit customers to use their PCS devices from any location where PCS is offered, regardless of the provider. Interoperability will also encourage diverse equipment suppliers and PCS providers to enter the market, since the equipment and service capabilities could be utilized anywhere. Common air interface standards to establish interoperability of customer handsets are necessary, according to Dr. Cox, to allow users to change providers without changing handsets, to foster manufacturing economies of scale, to enable more efficient spectrum assignments and to promote competition.[39] As Mr. Michael V. Patriarche, Vice President, Cellular Systems, Northern Telecom, Inc., advised the Commission during the en banc hearing, the lack of uniform standards

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[39] Remarks of Donald C. Cox, En Banc Hearing on Personal Communications Services, before the Federal Communications Commission, December 5, 1991 at p. 9.

affected the commercial viability of PCS in the United Kingdom.[40]

The necessary industry bodies exist to establish the standards for PCS. The Commission should insist that standards be developed as soon as possible to facilitate the speedy deployment of PCS and should require each applicant for a PCS license to state that the applicant will participate in standards setting and will deploy interoperable PCS.

B. The Commission Should Take Steps to Reduce Potential Interference.

Potential interference between PCS providers and point-to-point microwave users presents significant concerns. In addition, if the Commission authorizes the use of high-power for PCS in the same frequency band as low-power PCS, interference problems between adjacent high-power and low-power cells will occur. As noted previously, high-power is inappropriate for PCS. High power systems are more likely to cause interference with existing point-to-point users and are also more likely to interfere with each other. PCS should be established as a low-power, high-capacity system.

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[40] Statement of Michael V. Partriarche, Vice President, Cellular Systems, Northern Telecom, Inc., En Banc Hearing on Personal Communications Services, December 5, 1991 at p. 2.

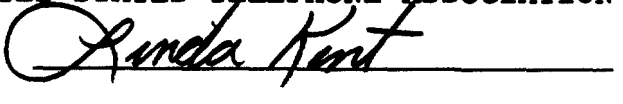
In order to reduce potential interference between PCS and existing point-to-point users, the Commission should require that to be type-accepted, PCS equipment must demonstrate a method of avoiding interference with existing users. One such method could provide that base stations and handsets utilize a built-in measurement-based algorithm that scans, on a real-time basis, to avoid point-to-point frequencies currently in use. This process will facilitate efficient spectrum sharing, avoid interference and enable operation where other methods would preclude spectrum use.

VIII. CONCLUSION

Exchange carrier provision of PCS is in the public interest and will assist the COmmission in achieving its objectives in establishing these services. USTA urges the Commission to facilitate the development of PCS in the manner recommended in these comments.

Respectfully submitted,

UNITED STATES TELEPHONE ASSOCIATION

By 

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I, Stephanie Kantor, do certify that on November 9, 1992 copies of the foregoing Comments of the United States Telephone Association were either hand-delivered, or deposited in the U.S. Mail, first-class, postage prepaid to the persons on the attached service list.

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